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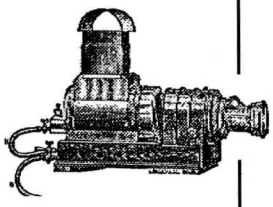
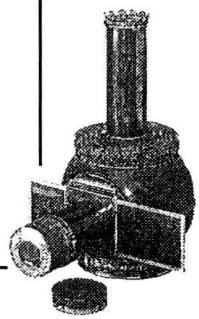


CONVENTION
JUNE 19, 20 & 21, 1998
Cleveland, Ohio



HOW I SEE THE DUTCH CONNECTION ABOUT THE ORIGIN OF THE MAGIC LANTERN

PART I

By the Late Willem Tebra

Given at the Magic Lantern Society meeting in Hauge, Holland, May 6, 1988

Ladies and Gentlemen,

This morning I shall try to give you an idea of a conception. The conception of a magic lantern. I shall try to do it in broken English to give you a sense of 'coleur locale.'

The origin of the magic lantern is so far as I know not yet seriously studied. In the time I am interested in the phenomenon of the magic lantern I have read a few possible explanations, but none of them has satisfied me. Even my own research has not given any way to such feelings. In this lecture I shall try to explain a part of these researches, which I call: "How I See the Dutch Connection About the Origin of the Magic Lantern."

In this Holland meeting I should extend somewhat about the origin of the magic lantern in Western Europe, including England. As you would probably agree with me the magic lantern was not at once invented as a complete apparatus, but more as a device which was developed through the ages. When we accept this idea, which is not a new one, because another optical device has a similar origin, then we have to consider especially the development of the magic lantern. There are a few great or important men, like Huygens, who left us with some written material about the situation in their period of history. Even Kircher left us, in his work "Ars Magna Lucis et Umbrae," with some unmistakable marks about the magic lantern. But these two sources bring us not to the origin. Between the remarkable feat left by Fontana in 1420 with his Florentiner lantern and the real magic lantern description of Huygens in 1658 there is a gap.

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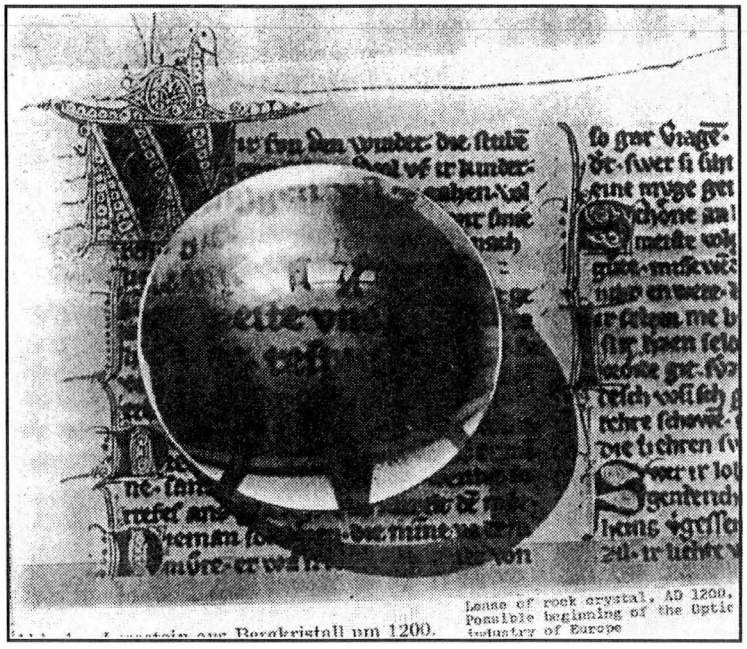
THE DUTCH CONNECTION *continued*

I have the pleasure to ask you to travel with me through the ages till the beginning of the 17th century, only about 400 years back into history, till around 1600. You remember your history lessons yet? It is the time of Martin Luther, with the waves of the plague. The invention of the electric light was yet far away, even the Argand oil-lantern was not yet invented. To be short—it was dark at night. To illuminate this period, in 1571 some witches were burnt publicly in Amsterdam and elsewhere.

A lot of really great men lived in that period. For instance Gemma Frisius, Gerard Mercator, Francis Bacon, Galileo Galilei, John Kepler and Willem Blaeu.

One can say these were difficult times. There was a war with Spain. The Armada was built. In Holland, Prince Willem V, Oranje was murdered in 1584 and we were ruled by Prince Maurits who shaped more or less the lines of the next century, what we call 'The Golden Century.'

But first I want to go in to some detail about the way optics was drifted to this country. I ask excuse for some jumping through the centuries, but it is unpractical to avoid anachronism in this kind of history building and to judge the past with the right knowledge. Without anachronism it would be difficult to analyze the period and to make an understandable story of it. An interpretation is often needed, sometimes a translation to modern terminology. So I take you on another short excursion, which I call the: "Optics After the Middle-Ages."


Lense of rock crystal, AD 1200. Possible beginning of the Optic industry of Europe

The beginning of the general history of optics is of itself a remarkable one. It is full of unreliable stories. Even the so-called facts; for instance the well-known story about the use of an emerald as an eye-improver by the Roman emperor Nero, is not trustworthy, because today it is understood that the green emerald was not used as a lens but as a green filter for the sun. However, the need for correction of the eyes then existed and must have been widespread. The results of an historical analysis about this need says short and snappy: "There is no evidence that people wore glasses before 1200." Even the Chinese have been unknown to their function before they could acquire them of businessmen from Europe.

The lens was only a part of the available optic tools in that time. The mirror had given the way to the laws of reflection, magnification, and concentration. Many miracles were done with mirrors. But I want not to paint the miracles of mirrors, but to push your attention to the function of the lens in order to connect the origin of the magic lantern into the form we know it today as a projection device. As I say—lenses were available.

A lens of rock crystal i.e. quartz, is shown in this slide. This simple magnifier of around 1200 is probably the beginning of the optic industry of Europe.

Before 1250 there were three important books on optics, known by a relatively small number of people, they are from:

1. Ptolemaeus, a Greek astronomer, he gives some observations about the mirrors and the magnifying properties of water filled globular glasses.

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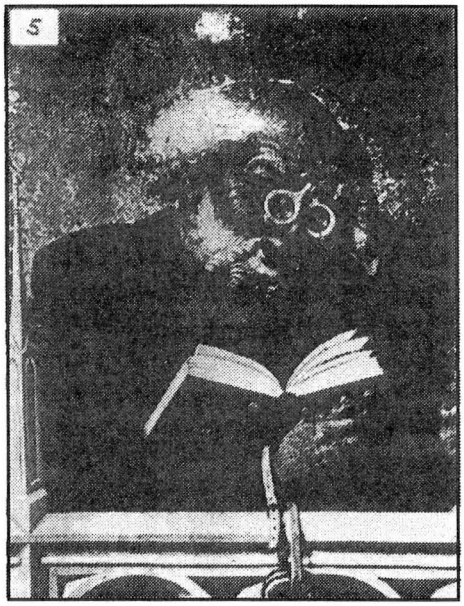
2. Alhazen, his Arabic name was Ibnel Haithan, a mathematician who had formulated ideas about the refraction and the magnifying properties of glass itself. His work was later translated into Latin.

3. Roger Bacon, a Franciscan monk in Oxford, had given probably in 1267 already a simple analysis of a lens.

After this, optical seeds were planted. It took a relative long time to see some practical results, for instance the eyeglasses mounted in a scissor-frame, shown in the next slide from a painting of 1466.



Why should a magic lantern friend be interested in those eyeglasses? Because in my opinion it is the beginning of the industrial manufacture of lenses by opticians for a large market. I believe that if there had been no need for eye correction, the whole development of optical apparatus would have been serious delayed. But very slow in time, the eyeglasses were developed into a useful product, sold by peddlers at fairs and on farms. About the same time glassworks with their furnaces were developing the art of making clear glass, such to imitate rock-crystal. The first were the famous Venetians around 1320. One can say that both interests had been fruitful to the general spread of optics over Europe.

May I evoke your attention also to the important improvement of the art of printing by Gutenberg in 1440? The cheaper and faster reproduction of books brought the knowledge of some writers on natural magic to a much broader public than monks in their monastic libraries could do with the copying of their incunables.

The ML-World-Picture:

We pass the Middle Ages and register that Martin Luther in 1517 nailed his thesis to the church-door. A wave of religious unrest goes through Europe. The Inquisition was active and many were burned. It was one of the signs, saying it in modern words, of a change in the world-picture, changing the climate of our culture. Historians say the Renaissance started with Leonardo da Vinci. That's more or less true if one says Rome is the centre of Europe. So it happened not at once and not everywhere in Europe. And when Copernicus says in 1543: "Earth is not the centre of the Universe," we take it for granted. But it was really revolutionary in the way of thinking about the Creation.

But also in other ways some new ideas were developing. Beside the church there were some organizations, such as the Rosecrusians, who were active in such matters as Alchemy. Alchemy can be seen as a kind of philosophy, a way of thinking in that time about relations and riddles of the materials around us. It was based on the propositions of Aristotle in relation to the four basic elements such as water, fire, air and earth. Alchemy can be seen as an example of the struggling way of thinking over our world. But in that kind of philosophy it was possible to make gold, find the elixir of life and the philosopher's stone.

A way of thinking more appropriate to fairy tales, but not so mad in that time as it sounds now. When introduced from Egypt it was a secret and religious philosophy, but Alchemy in the hands of the Franciscan monks developed into an experimental game, one to exercise with real materials. About the properties of materials and devices one had accumulated a lot of interesting descriptions, often collected under a chapter Natural Magic. The Alchemy was yet more or less equal to science and the form of Natural Magic was used for a first beginning of explanation of common physical laws.

What kind of world-picture can we expect? It was the belief in heaven and hell that makes magic an art. For the magic lantern adept you can say there were some exercisers in that art. And yet their number was low. There were not so many so rich to give their time to optics.

So far I have roughly sketched the situation at the period of the beginning of the 16th century. I believe it was in this period that the concept of the magic lantern was born and developed to the form we could recognize now. From books there is not so much information about the magic lantern; but fortunately the printer Plantijn in Answers printed in 1561 the book of Porta with the Latin title De Magia Naturalis Sive de Miraeculis Rerum.

It was a book for new practicing alchemists, a book for everybody who wanted to learn how to make gold or the elixir of life and to practice other magic. The first edition contains a lot of nonsense, the second in 1589 was better. What does Porta say about the magic lantern? Almost nothing! For the magic lantern friend it is a first class disappointment. There are some suggestions of projections. He describes for instance something about the camera obscura, information already long known and for instance given by Leonardo da Vinci in his Trattato della Pictura.

To be continued . . .

THE PRESIDENT'S VIEW

By Bob Hall

One of the highlights for me on our trip to Britain in April was a visit to the Edinburgh Camera Obscura. It is located on the roof of a six story building called the Outlook Tower. The building is just below Edinburgh Castle at the top of the Royal mile. It houses a sociological museum which has exhibits of the camera obscura and how it works, pinhole photography, an art gallery and a halograph display as well as the camera obscura. However no elevator, so up six flights of stairs to the viewing room (all the good sights in Britain seem to be up several flights of stairs).

The Camera Obscura has a rooftop mirror that can be both tilted and rotated to give a constantly changing live image of the city. The mirror reflects light through three sets of lenses onto a white concave viewing table 28 feet below. The guide slowly rotates the mirror through 360 degrees to show a panoramic view of Edinburgh while telling the story of the city's historic past.

Sue and I were very pleased with the presentation. Even though the City of Edinburgh has changed, it was exciting to be observing some of the same areas and buildings that were seen by the patrons of the camera nearly 150 years ago. But most of all it was great to see an apparatus that was based on the same science that led to the development of the magic lantern.

As you can see from the accompanying article there are several Camera Obscuras in Britain. If you have a chance to attend one, I encourage you to go. The walk up those stairs is worth it.

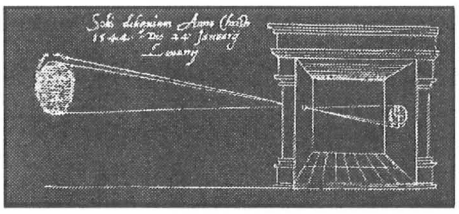
I'll talk to you again.

CAMERAS OBSCURAS: A SHORT HISTORY

The Edinburgh Camera Obscura, Landmark Press, Carrbridge, Inverness-Shire

It has long been known that the light passing through a small hole into a darkened room will produce an image on the wall opposite. As early as the 4th century B.C. Aristotle wrote of how during a partial eclipse of the sun, images of the eclipse could be observed under a tree where the narrow shafts of light struck the ground.

In the 10th century A.D., the Arabian scholar Alhazen demonstrated, by an experiment that can easily be repeated, the principle that light travels in straight lines. In a darkened room he placed three candles of different sizes in front of a board pierced by a pin hole. An upside down and reversed image of the candles appeared on a white card held opposite the hole.



The eclipse of the sun at Louvain, January 24th 1544. The first published picture of a camera obscura.

From as early as the 13th century, 'room' camera obscuras were widely used by astronomers for the observation of sun spots and eclipses. This was a much safer method of recording these events than staring directly at the sun, as John Greaves, Professor of Astronomy at Oxford in the 1550s, found out to his cost. He almost lost the sight of one eye after trying to measure the sun's diameter through a telescope.

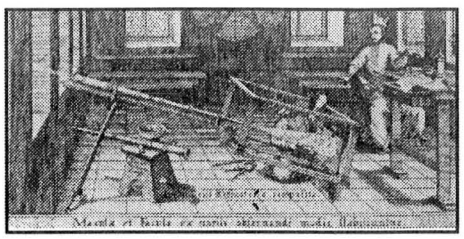
The camera obscura was greatly improved during the 16th century by the insertion into the pinhole of a bi-convex lens. This concentrated the light and sharpened the image.

In Italy, these improvements led to camera obscuras being used for public entertainment. Giovanni Battista della Porta occasionally arranged theatrical productions on a sunlit stage outside his obscura room. His audience, watching the spectacle projected on to a white sheet, were so thoroughly taken in by these 'moving pictures' that, unaware of his arrangements, they frequently accused him of sorcery.

In the late 16th century, the Venetian architect Daniele Barbaro suggested using a piece of paper as a screen and tracing onto it a picture of the scene outside. As an aid to artists, however, the 'room' camera obscura had its limitations as only one view could be seen.

In the late 1620s, the German astronomer Johannes Kepler invented a portable camera obscura. This was constructed inside a black tent through the top of which projected a tube. A mirror at the top of the tube reflected the image down through a lens and onto a small white table. The tube could be rotated to change the view. The whole contraption could easily be carried from place to place and accurate landscape drawings made.

Camera obscuras gradually became more portable, more compact and easier to use. They came in many different shapes and sizes. Some were constructed inside sedan chairs, there were desk top models, small tent types, and folding camera obscuras like the one owned by the portrait painter, Sir Joshua Reynolds. While it is not known whether Reynolds ever actually painted with his they were regularly used by such landscape painters as Thomas Sandby, and Thomas and William Daniels.



Optical experiments, Italy, 1630.

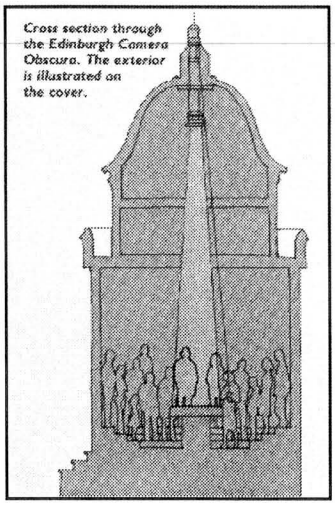
Camera obscuras were also popular with amateur artists and almost every instrument maker carried a selection of different models and sizes. Some of those made as early as the 17th century were very little different from the first photographic cameras of almost two centuries later.

The camera obscura enabled people to draw more accurately. Their sketches nevertheless still took time and patience to complete. To speed up this process, various ways of fixing the image were tried using metal plates, glass, and paper treated with light sensitive chemicals. It was not, however, until 1822 that the Frenchman Joseph Niepce finally managed to produce a recognizable photograph using a camera obscura.

The father of photography, as we know it today, was the Englishman, William Henry Fox Talbot. On honeymoon in Italy in 1833 he used his camera obscura to make sketches of Lake Como. This led him 'to reflect on the inimitable beauty of the pictures of nature's painting which the glass lens of the camera obscura throws upon the paper in its focus . . . how charming it would be if it were possible to cause these natural images to imprint themselves durably and fixed upon the paper.'

William Henry Fox Talbot, inventor of photography.

Within a year of returning home Fox Talbot had produced photographic images. By 1841, he had patented the calotype process. He invented a paper that was very sensitive to light and placed this in his box camera obscura. The image obtained after exposing the paper to light was fixed by dipping the paper into a solution of bromide of potassium. From the resulting 'negative,' prints could be made as they are today.



Cross section through the Edinburgh Camera Obscura. The exterior is illustrated on the cover.

During the 19th century several large scale camera obscuras were built as places of both education and entertainment. This development was made possible by the use of the meniscus lens. Previously, with a simple biconvex lens, larger images in a camera obscura had been badly out of focus at the edges. The new lens enabled the image to be expanded in size without any loss in quality.

In Britain there are still public camera obscuras at Aberystwyth, Kirriemuir, Bristol, Dumfries, Douglas and Edinburgh. The Dumfries camera obscura owes its existence to the formation in 1834 of the Dumfries and Maxweltown Astronomical Society. The society purchased a windmill and converted it to an observatory equipped with a telescope and camera obscura.

A more commercial camera obscura is that at Douglas Head, Isle of Man. It was built as a business venture in the 1880s. Unlike other camera obscuras it has no single rotating viewing turret, but instead, eleven stationary turrets each with its own camera obscura.

One of the best known camera obscuras is that at the top of the Royal Mile in Edinburgh. It was opened in the 1850s by the optician Maria Theresa Short. The camera obscura has a mirror that both tilts and rotates. It reflects light down through three sets of lenses onto a white concave table 28 feet below.

THE EDINBURGH CAMERA OBSCURA - TECHNICAL INFORMATION

In the centre of the Obscura room is a white painted, concave wooden table, 21 feet 4 inches (6.52 meters). Above it is a 10 inch diameter glass doublet lens. A metal cylinder rises another 6 feet 9 inches (2.06 metres) upwards with a singlet lens halfway and triplet lens 5 inches in diameter at the top. The cylinder projects out of the roof of the Camera Obscura and is covered by a protective hood, open to one side. Under the hood facing out through the opening is a plain mirror protected by a pane of ordinary glass.

The light from any object passes through the glass. The mirror is set at an angle and so reflects the light downwards, through the lens and on to the white table, where an image of the object is visible when the room is darkened. The mirror tilts and rotates to change the view.

The image is not magnified but is reproduced at life size. It is also correctly orientated. In a basic pinhole Camera Obscura the image is upside down and reversed. In this Camera Obscura the mirror and lens turn the image the correct way up. The lenses of course also focus the image. The focus is very precise and the depth of field (area from near the lens to far away in sharp focus) is also very large. This is achieved by having a very small aperture, equal here to F67. The F number is simply the focal length divided by the diameter of the lens. (Focal length is the distance from table to lens. The focal length is 337.7 inches. The top lens is 5 inches in diameter; 337.7 divided by 5 is equal to an F number of 67.54.)

If the aperture became smaller still, very close objects would also be sharply focused. But then this would cut out more light, and make the image too dark. With the present 5 inch lens most of the picture is in focus and the image on a reasonable day is bright enough. The large depth of field avoids the need to constantly adjust the focus.

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A COMMUNICATION TIMELINE

Submitted by Joe Koch, Past President

Entries in italics pertain to the Magic Lantern

1447 Gutenberg invented movable type

1460 woodcuts first used in books

1476 first use of copper intaglio plates

1570-1770 books printed were usually illustrated by copperplate engravings

1640 Kircher - Jesuit Priest first projected magic lantern image

1653 complete magic lantern shows are taken on road

1742 first ink making factory in U.S.

1798 Etienne Robertson develops the Phantasmagoria, a more sophisticated magic lantern

1814 first cylinder press in operation

1824 photoengraving invented

1839 Henry Langdon Childe further develops the magic lantern by introducing dissolving views

1840 first patents for incandescent lamps

1847 first rotary press

1848 Frederick Langenheim originator of magic lantern slides on glass/first pos. photo picture on glass

1849 Langenheim exhibited pos. images on glass at Merchants Exchange at Philly

1850+ decal process of pictures applied to glass

1850-1860 lantern slides used in Pennsylvania hospital for insane for amusement & education of patients

1850 color dyes for ink developed

1851 introduction of photographic print on glass for projection

1852 first screen dot principle discovered

1862 first practical arc lamp installed

1866 L.S. Beale devises the choreutoscope, a slide which allows magic lantern to project moving drawings

1871 first commercially developed halftone for newspaper

1879 first commercial incandescent lamp by Edison

1883 first commercial halftone screen produced

1885 audio-visual innovation introduced in New York City, illustrated song

1892 Bausch & Lomb Baloptican/electric

1893 color process successfully printed

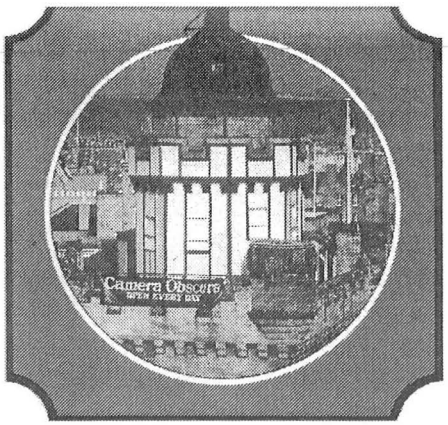
1895 projection first achieved for motion picture

1897 projectors for both lantern slides and films

1905-06 Nickelodeon Movie Houses appear in great numbers, songs illustrated

1906 first offset press

CAMERA OBSCURA - TECHNICAL INFORMATION continued



The distances involved in the Camera Obscura are huge when compared to those in a photographic camera. This creates another problem. The lenses focus light in a curve. To overcome this the table has a concave surface to match the curve of the focus. Nevertheless the image is still less clear at the edge than it is in the centre. This is due to the fact that any lens is weaker at the edge. With an image of this large scale the weakness is clearly visible.

The quality of the image is however excellent. This is due to the present lens system which was installed in 1947 by Varr and Stroud, the Glasgo firm of scientific instrument makers. Apparently in 1853 the image was smaller and less clear than it is today.

For more information contact: Andrew Johnson/Claire Alexander - 0131 226 3709 or The Patrick Geddes Centre for Planing Studies - 0131 650 8971.

LETTERS TO THE EDITOR

We have received many kind letters thanking us for the job we're doing with the *Gazette*. We appreciate the compliments.

However we need to give credit where credit is due. You, the members, have done a tremendous job contributing articles. That's what makes the *Gazette* what it is—an informative dialogue between interested, knowledgeable, devoted members. Without your correspondence there would be no newsletter. Please don't forget—keep those cards and letters coming folks!

Congratulations on a superb issue of the *Gazette*. Done in a most professional style, and all of the articles are wonderful.

I was most pleased the way the photos came out on my lectern lamp.

I know it must have taken a great deal of time, but we are most fortunate in having three very talented and dedicated people, in that capacity, soooo, many thanks.

Sincerely,
Homer Peabody

Congratulations on your first *Gazette*. I think the layout, quality of printing, and articles, combine to make most enjoyable reading.

My interest in magic lanterns dates back to the 1960s which I spent as a moving picture machine projectionist in the San Francisco area. Several of the theaters still had slide projectors in the booth, and once in a while I'd put on a small slide show during intermission. This always went over well, and in an eleven year period I put together a collection of perhaps thirty antique theater slides. I still have those thirty slides, but no longer a convenient way to show them. However, they bring back such pleasant memories that two years ago when I learned of this society, I joined. A smart move on my part!

It isn't often that I'm in the company of such a well-educated group as those that attended last year's convention. What struck me most about my fellow collectors though, was how almost all of them went out of their way to make my wife and I feel welcome, and that we enjoyed ourselves. You know, that really says a lot about people because many of the attendees had been friends for years.

I would encourage other new and/or members with small collections to attend the Cleveland convention. The camaraderie and socializing, the first rate presentations, and the opportunity to add to your slide collection will surely make for a terrific get together.

Sincerely, James Shaw

I did my first public show last week and although it was just a short show the audience loved it and I can't wait to do another. There was a screening of the movie *Somewhere in Time* and I did a show of about 25 song slides, all romantic images from different sets, while an organist played the theme from *Somewhere in Time*. It really set the mood for the film which immediately followed. So, now I am bitten by the showman bug. Anyway, I look forward to my next issue of the *Magic Lantern Gazette*.

Thanks,
Ron Krueger

Hi there!

Funny thing was a few days ago, I received the *Magic Lantern Gazette* and after reading the *President's View*, I said to myself, "Boy does that sound familiar." You see I've been a collector all my life of one item or another. Stamps, comic books, records, and trading cards were collected as a boy and now it's mining, postcards, and Mt. Lowe memorabilia. I'm not necessarily an expert on any of them but have collected enough to know that your article speaks the absolute truth.

One thing I'd like to add. In all my years of collecting this and that, perhaps my greatest rewards have been being able to see past the money and the hoarding and to give a new collector an item that will make a lasting

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LETTERS TO THE EDITOR continued

impression on them; if not to share a small treasure, then to share the knowledge of the hobby with a beginner.

Those are the rewards for me and in time rewards like that are paid back by someone like Sue and Bob Hall, who while looking through a box of slides, remembered I collected Mt. Lowe and sent off a slide to me. No questions asked and no payment requested.

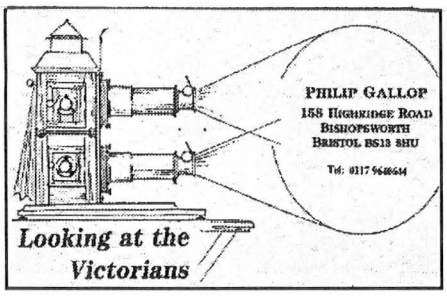
Without people like you, hobbies die off. I want to thank you both sincerely for the Mt. Lowe slide and only wish I could someday return the favor. As I was recently telling Mr. Bishop (TOP) I have not found many slides for some reason, though I look religiously for all sorts of things at all sorts of places, just like in your article.

Also have never seen a magic lantern slide show, as I'm sure many Americans haven't. In fact, I'm sure many wouldn't know what one was. Would there be a video of a presentation out there somewhere to get an idea of the whole affair?

By the way, I really enjoy your paper. There are lots of great articles, pictures, and general information.

Sincerely,
James Brower

ed. note: *In sorting through some of our infamous "Incredibly Boring Slides" we found one of Mt. Lowe. This slide would previously have meant nothing to us until we read James' article for a previous newsletter. We were happy to send it along to him. This incident just proves the old adage, "One man's incredibly boring slide is another man's treasure!"*



MORE ABOUT THE MCALLISTER COMPANY

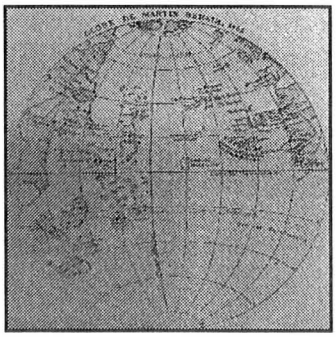
Dear Bob and Sue,

Thank you for the copy of *Magic Lantern Gazette* received today. We are particularly interested in the article about McAllister of New York. We have a few slides by them in our collection; amongst them are pictures of John Cabot's voyage in 1497. Here in Bristol we are celebrating 500 years since this voyage. A replica of his ship "The Matthew" has been built here and crossed the Atlantic May 2nd to June 24th to Newfoundland.

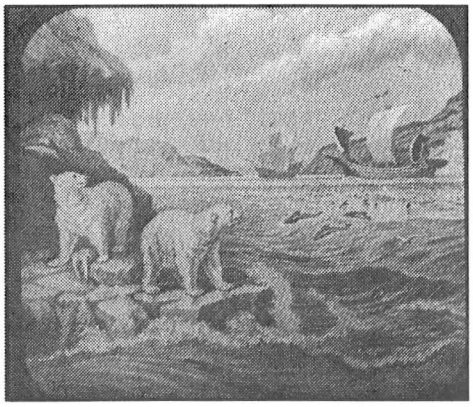
Enclosed are photocopies of photos of some of these slides. They have been authenticated by the Matthew Project in Bristol. The slide with two ships, one of which is "The Matthew," is from Cabot's second visit to America. It was exciting to see slides made 100 years ago celebrating "The Matthew." The titles on the slides are written on the back of these pictures. Each slide is entitled T.H. McAllister, 49 Nassan St., New York.

Thank you for the excellent write-up on our convention.

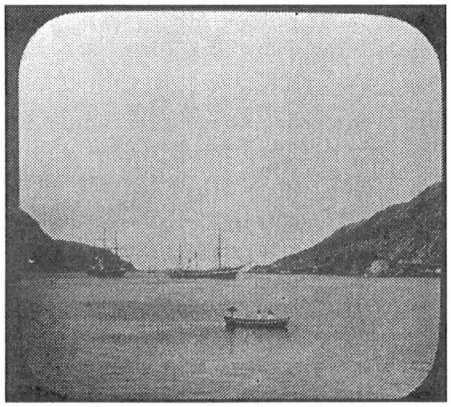
Kind regards,
Philip & Harriet Gallop
Bristol, England



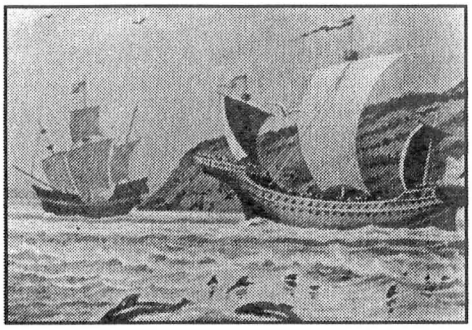
Map dated 1492.



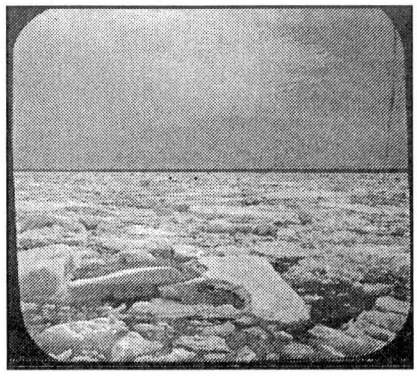
The Cabots in Arctic Discoveries of the Cabots, 1497.



St. John's Harbor, Newfoundland. (age of ships c 1870)



Enlargement showing the name of ship "The Mathew".



The Straits of Belle Isle icepack looking towards Newfoundland.

MY LIMELIGHT WAS A LEMON
PART 4

By Henry Clark

Any lanternist of the nineteenth-century would have questioned the wisdom of performing a magic lantern show inside a fort's powder magazine. Apparently, those of us in the twentieth century have gotten appreciably dumber. Or maybe it's just me.

I have only done magic lantern shows outside the cozy environment of my home museum, Old Bethpage Village, on four occasions. Two of those occasions were for local Long Island historical societies. The third was for the New York Historical Society in Manhattan, where, after the show, people approached me with questions other than the expected, "Hey, mister; how do them thar moving slides move, anyway?" Instead one audience member came up to me and said, "I am writing my thesis on Thomas Mann's use of magic lantern metaphors in *The Magic Mountain*. Perhaps you know of some I have missed." (I did not.)

The fourth occasion was a series of shows I attempted to do in the grounds of historic Fort Mifflin, Philadelphia. And when I say "in the grounds," I don't mean "on the grounds." I mean in the grounds, as in, under-the ground, surrounded by several cubic acres of dirt.

The shows were to be done over the course of two afternoons and the only place I could find dark enough at that time of day was the powder magazine. This was a man-made cave hallowed out deep inside the earthwork ridge surrounding the fort. During the Civil War, gunpowder and ammunition had been kept there, effectively buried so that if there were ever a "mishap" the fort would not be blown to Pittsburgh. (This had been done at the express request of the people of Pittsburgh.)

Explosives were no longer kept in the magazine, I was told, and after linking three fifty-foot-long electrical extension cords together so I could reach the nearest outlet, which was in a men's room at the Philadelphia International Airport, I set up my Sciopticon and was ready for business.

The first half of the first show went fine. Visitors to Fort Mifflin made their way down a labyrinthine entrance corridor, essentially using my electrical cord as their guide, no doubt expecting to meet the Minotaur at any moment. What they found in the heart of the maze was, instead, the Monitor, and the Merrimac, battling it out on a bedsheet where I was projecting my standard Civil War show.

It was the height of summer outside the powder magazine. Temperatures in the nineties, with humidity levels equivalent to those in the Amazon basin. Inside the magazine, the temperature seemed about sixty. Halfway through my show, the projected images started to fade. By the three-quarter mark, the projected images had vanished completely. Nothing but colorful blurs appeared on the bedsheet. The electric bulb was working, the slides were in place, but it was as though we were viewing the show through water.

We *were* viewing the show through water.

The difference in the temperature had caused water to condense inside the lantern's lenses, rendering them about as useful as—well, magic lantern lenses full of water.

That night I carefully unscrewed the component parts of the lenses, dried them off, and reassembled them. The following day I did lectures on phrenology (the science of head-bump reading) instead of magic lantern shows at historic Fort Mifflin. (I find it is always helpful to travel with two arcane fields of knowledge instead of one. In fact, just to be on the safe side, I am currently teaching myself tyromancy, the art of foretelling the future by studying coagulating cheese.)

Next Issue: I Meet Joe Koch

CORRESPONDENCE BETWEEN MEMBERS

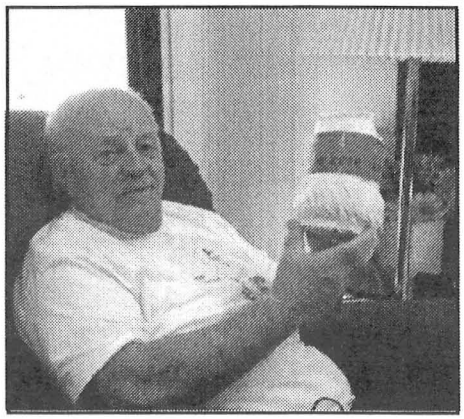
The strangest of objects come across my desk. It matters not where I am residing at the time. Seattle, Redmond, the Hoods Canal, Port Angeles. Usually the parcels are delivered by mail, not counting messages from the great Djinn of the mind,The Midd Le Sea whose notes are usually discovered by smell and most likely to be found around my show lantern. But in the case of David Brooke, his letter arrived in the most normal manner, delivered by the U.S. Mail. David Brooke is also known as Bombastes Duplex and is a retired director of the Sterling and Francine Clark Art Institute. He very obviously has time on his hands.

David wrote to inform me of another Magic Lantern Society in the northeast corner of the country. That society also has membership problems. At the present time David is the only member of record, although he admits to sometimes listing his eldest son for circulation purposes. The new society is known as "The Greater Pownal Magic Lantern Society." It's publication is known as *Dissolving Views*; to be published as the whim directs.

The layout for the cover of the first issue of *Dissolving Views* will feature an octunial lantern with step ladders attached on either side so that the operator can service all eight levels successfully!

continued page 10

CORRESPONDENCE BETWEEN MEMBERS continued



"Well," I thought, "What nonsense!" But a few days later I changed my tune. Delivered to my door arrived a 4" x 4" x 8" parcel. Of course it was from Bombastes Duplex. In the box, well mounted around a cocoa can was a large white cotton wick manufactured by the American Wick Company with the code AW21P boldly printed along with the words "Made in the U.S.A."

A note from Duplex informed me the enclosed was a slightly imperfect wick of the size and shape required for each of the levels of the octunial lantern. I now pass a picture of the wick among you and leave it to you as individuals as to the validity of all this.

Submitted by Top (Robert Bishop)

Incidentally, being a trusting person I have sent along appropriate dues so as to be considered for membership in this exclusive organization. A copy of the exact amount sent is shown here. One half of 10 deutsche marks equals 5 and a 20 dollar bill reduced 50% equals 10.

ed. note: *The letter which precipitated this submission follows, along with a picture of The Old Projectionist and the wick for the octunial lantern.*

Dear Bob,

A quick note to thank you for your subscription to the Pownal Magic Lantern Society (formerly Ike Pownal Light Opera Company). Did I ever send you, many years ago, the actual prospectus for the first issue of *Dissolving Views*, which I now seem to have misplaced? It included a commentary on a series of effect slides of an unhappy soul jumping off Waterloo Bridge—a near suicide, rescued by a waterman who was smoking a pipe underneath the arches. There were other items, as I remember, and possibly a very unpatriotic song rendered by a member of the Pownal Light Opera Company in her cups.

It might be well to hire acrobats to operate the octunial, as the grand finale could involve them all somersaulting down in unison from their various stages.

I have yet to design a membership card or certificate for the PMLS, but will send you one in due course. (there may be two cards, each picturing four stages of the famous octunial.)

I hope your latest shows went well and you did not have to accompany yourself on the bongos.

All the best,
David Brooke

July 14, 1996

Floyd Hagedorn
320 W. Texas
Sherman, TX 75092

Dear Floyd,

Thanks so much for the quick response to my request for your Keystone 600 lists. That you had already done the tedious work of doing a slide-by-slide compilation of your set has certainly saved me the time in doing so with mine. I haven't compared them yet, but I feel fairly certain they are nearly identical. The only exception is that I don't believe my set has any of the V negative numbers attributed. I checked my 092 slide, for instance, and it doesn't indicate the V but otherwise is the same negative number and subject. And I probably wouldn't have thought to put my compilation on a data base. So your printout of the negative number sequence was greatly appreciated and confirms what I had suspected—that many of the images in the set were from among the first of the company's production.

You ask what I know of Keystone . . . What I know is that the 600 slide set has started to change my life. After nearly two decades as a generalist in the antiques trade, I have finally found what I think will be my specialty for the rest of my years in the trade—both the collecting and dealing of photographic magic lantern slides.

I first encountered the set in the fall of 1995 at the flea market I manage on Capitol Hill in Washington, D.C. An exhibitor from Baltimore who has a contract with a Catholic diocese to dispose of the contents of closed parochial schools brought a large box of the slides. He sold them at a dollar each to an antique dealer who has a shop across the street. The dealer then gave me first choice from the lot (perhaps 450 slides) for $2 each. I spent most of the afternoon sorting through them and took nearly 100 slides for resale. At the time I didn't know it was a 600 set.

I learned that in the winter, after joining AOL and going online. People were discussing, buying and selling magic lantern slides in

cyberspace! Shortly, I found the whole set, with cabinet (no legs) and drawers in upstate New York. I bought that after an enjoyable correspondence with the seller, a Howdy Doody collector, $600 postpaid. About the same time I learned from a fellow in California about a 600 stereo card set in an oak case that sits atop the 600 slide set. His card cabinet also came with a storage space for two viewers. A month or so ago I bought about 450 of the slide set from a book auctioneer in Baltimore, with the drawers but without the cabinet.

Recently I've been negotiating to buy a combination set. That one has all the cards in an oak case, without the viewer storage, and 466 of the slides, with drawers and cabinet. The slide cabinet, like mine, doesn't have a stand like yours. Are your feet attached to your cabinet or designed to be a separate stack like element?

So far, I believe all the 600 sets I've encountered have been identical in content and so far I have no indication that they produced their 1200 card set in slides too.

At any rate, I've now started to study the Keystone slide production with the idea of doing a book about that aspect of the company somewhere down the line. I don't think there is much original research on the subject. In fact, just last month I stumbled across the e-mail address for the Keystone archives collection at the University of California. I wrote the curator and asked what they had in slides. He replied that out of 350,000 items 9,000 slides are in the inventory. He said I'd been the first person to ask about their magic lantern slides in the two and a half years he'd been curator of the collection!

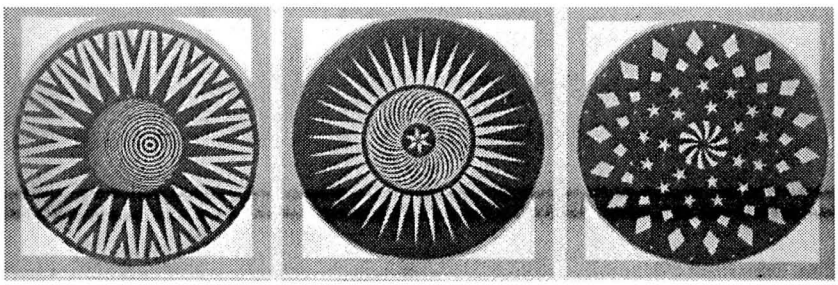
In the meantime, I've been buying and collecting photographic slides from other sources and now have a couple hundred more in my collection along with the 600 set and nearly 1,200 in inventory. I'll check your wanted list and let you know what I've got that you're looking for in a separate note.

I don't know the Halls, Peabodys and Joe Koch. But I'm going to look their addresses up in the MLS directory and send them copies of this letter in the hopes that they can add to the dialog. In particular I'd like to get originals or photocopies of any Keystone publications or advertising about their slide production.

Again, may thanks.

Sincerely,
Tom Rall
1101 N. Kentucky St.
Arlington, VA 22205
(703) 534-7612

ed. note: *This letter has been included in the newsletter in an attempt to enlarge the dialogue with Tom concerning the Keystone 600. Anyone willing to research and publish information concerning the magic lantern needs all the help they can get!*



NEW ENGLAND MAGIC LANTERN SOCIETY MEETS

By Terry Borton

The weather was awful—pouring rain—but that didn't stop fifteen magic lantern enthusiasts from New England from having a great time at their third annual informal yearly get-together, hosted by Terry and Debbie Borton in Haddam, CT.

The "round robin" Show-and-Tell introduction produced some immediate interest when Dorothy Bromage (new Society member; welcome Dorothy) offered some strange slides containing two lists of words, the one on the left hand side being right side up, the one on the right, upside down. They were obviously used in a school somehow, but as to just how, we are stumped. Can anyone help?

ed. note: *We believe these slides were used in a projector called a Tachistascope to drill students on word recognition and increase their reading speed. A set of these slides (usually Keystone Co.) came with a special holder that framed just one word or phrase at a time.)*

Paul Barressi then demonstrated a spectacular mechanical slide of a ship, with a wheel that turns, a boat that rocks, and scenery that passes slowly by. Chuck Lynch showed a few delicately colored slides of China from a large collection that his great grandfather took, on a world trip in the 1920s. Barbara and John Gaudio walked off with the prize for Best Buy of the Year—a wonderful 20 slide set of Knights of Pythius, including a number of splendidly colored allegorical Beale's that were new to the Borton's—all for $20. And noted daguerreotype collector Matt Eisenberg topped us all with a matched set of bronze statues depicting a magic lantern showman and his female musical accompanist, dating back to the eighteenth century.

Dick Moore and Sarah Dendras drew a rat from their collection—or rather a song sheet for "Rough on Rats"—a promotional ditty selling rat poison, which we sang with

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NEW ENGLAND MAGIC LANTERN SOCIETY

Left to right; Barbara and John Gaudio, Debbie Borton,_____? _____? Matt Eisenberg, _____? Dorthy Bromage, Dick Moore, Jackie Alvarez. (musician with AMLT.)

great gusto to some miscellaneous rodent slides that he and Terry had cobbled together. And with that preamble, all adjourned for lunch and market browsing.

A "Clunker Clinic" after lunch focused on how to get lantern lights to work properly, and Beth Shepard was especially delighted to learn how to get her lantern functioning effectively. Then Leslie Frank, a graduate student at the University of Connecticut, read a paper on the childhood fascination of Connecticut photographer and lanternist George Marthrope with his home built top lantern. It's an intriguing glimpse of how pervasive both the professional and amateur lantern culture was—coming soon to a Gazette near you!

Terry Borton and Jacqueline Alvarez (one of AMLT's two accompanist/singers) gave a performance of "Curfew Must Not Right Tonight," from The American Magic Lantern Theater's Valentine Show, and then Jackie talked about the accompaniment she had just provided, demonstrating some of the musical techniques that make such a contribution to AMLT's shows.

The finale was another songfest—this time "The Vinegar Works"—with hysterical

Jackie Alvarez, Dorthy Bromage,_____, Elizabeth Shepherd, Dick Moore, _____.

slides, but no music. That didn't slow Jackie down—she made up music on the spot—which encouraged the rest of us to join in. (Another accompanist technique—if no one knows the music, no one can be off key, so everyone sings!)

After the formal meeting a number of people warmed their noses with tea and slide stories at the Borton's, and later the die-hards had a wonderful dinner at the local pub.

It was great. Next year, maybe the sun will shine.

NORTHWEST GROUP MEETS ON HOOD CANAL

By Judi Shape

The members of the Magic Lantern Society of the United States and Canada who reside in the Northwest held a quarterly meeting on Sunday, June 8. Hosting the meeting were Sharon and Mike Koch at their home in Seabeck, Washington on the shores of Puget Sound. Attending were Joe and Alice Koch, Bob and Sue Hall, Ralph and Judie Shape, John and Betty Potter, Larry Cederblom, Bob Bishop and Sharon and Mike Koch.

Mike was absent for most of the day due to a boating misadventure that had something to do with tides coming in and going out. Former naval officer Joe Koch gave a presentation on tides and the floatability of boats at low tide.

Joe opened the meeting with correspondence he has received and talked of a recent show he and Alice have put on. Sue told of their successful shopping spree in England and about the success of that "other society" in putting on their convention in April. Ralph showed the programs and other ephemera produced for the London convention. Sue and Bob have reported on the convention in the upcoming summer issue of the *Gazette* which will be mailed shortly. Bob Bishop read a letter from David Brooks much of which will be recorded for a future *Gazette*.

The buffet luncheon was enjoyed on the deck overlooking the water on a gorgeous sunny day (typical). Following lunch, we adjourned downstairs for some slide viewing. Joe started off with some advertising slides. The Hall's showed some of their English purchases and asked for help in identification. Ralph showed newly acquired chromotropes. Larry brought his newest achievements which were computer generated slides and one which was cracked but he was able to remove the crack on his computer. Sharon also showed some of her recent slide purchases.

The highlight of the afternoon was a 20 minute video which was made of Bob Bishop's most recent "last" show. He performed two shows for the city of Port Angeles at their Juan de Fuca Festival over Memorial Day weekend. He claims he is slowing down but put him behind a magic lantern and he performs as good as ever. Performing before packed houses and accompanied by live music, he was well received by the city and the audiences. Though claiming this as his last show, he is already planning the next "last show."

Following Show-and-Tell time we were treated to a cake in honor of Bob Bishop's thirtieth anniversary of giving magic lantern shows.

Next quarterly meeting will be at the Hall's on August 2.

Q&A

Answer by Bob and Sue Hall

Sometimes we as members become discouraged when we ask for specific information from other members and do not receive a response. All of us have busy schedules and sometimes do not take the time to search through our material to supply what another member needs. We often think, "Someone else will do it." The problem is "someone else" is thinking the very same thing.

However, we can testify that sometimes things work out exactly as they should. In the last issue we asked about a viewer for a set of 10 tiny slides that we own. We heard from three members and all sent photocopies. Read on . . .

From: Rick Martyna

To: Bob and Sue Hall

Subject: Viewer for Your 3/8 x 3 1/2 Inch Glass Slides

Dear Halls,

I am a relatively new member to the society and have enjoyed the upgrading, presentation and delivery of information I have noticed since I renewed my membership this year . . .am looking forward to the convention in '98. It's almost in my backyard.

I have to admit that the name "Views for a Stereograph" threw me off the path but when I looked at the *Gazette* to get the address for Mervyn Heard and re-read your question, I thought that maybe, just maybe, the size of the slides you describe in your question are the same as for my micrograph.

Lo and behold, they were . . . so, the instrument you are looking for to view your slides has to be the same or very similar to the micrograph. (I'm curious, were these slides purchased in U.S.A. or England? Would like to know.)

ed. note: *The slides were purchased at an antique show in Portland, Oregon about five years ago. Who knows where the dealer got them?*

The size of the viewer is just about 10% larger than the photocopy picture.

All I can tell you about this instrument is this: about 20 to 25 years ago I was reading the Q & A section of the *Antique Trader* regarding photographic inquiries. There was a picture of the micrograph and short description of its purpose. I thought that it was unique and kept an eye out for one. (Even though the article said they were scarce.) Within six months I found one at an antique show and thought at the time that "That wasn't so scarce!" Well, I just may have been very luck since I haven't found one since.

The micrograph that I have is the No. 2 as described in the pamphlet—complete with hinged wooden box that contains a tray of 12 slides separated by wooden slats as you describe in your question, the pamphlet and the micrograph itself. (See page 14).

There are no dates anywhere that I can find and the only thing that I can go by is the fact that the first two slides contain presidential portraits and the last one is R.B. Hayes; so this puts it in the late 1870s . . . early 1880s.

The set of slides has 10 slides with 10 pictures each, one sample slide and one clear slide so that the unit can be used as a microscope (see step 4 of the directions, page 14).

I hope that this has helped you out somewhat. I will keep a lookout for another one of these and contact you if I should discover one.

Just a closing thought—shortly after it was purchased I remember showing this unit to a friend of mine. Disinterested as he is in this type of thing, his only comment was "That's nice. You have something that takes a picture the size of your small fingernail and blows it up to the size of your thumbnail." That just about describes this unit.

Thanking you for your time and trouble, I remain,

Sincerely yours,
Rick Martyna
401 Wyllis Street
Oil City, PA 16301-3049

Dear Bob,

I noticed your appeal in the latest *Gazette* for a viewer for your little slides, or information on same. It just so happens that I have the little viewer with an incomplete No. 2 slide set and instruction/catalogue booklet. I have enclosed a photocopy of the latter. The viewer is a single lens low-power microscope, with a frame made up of nickel plated brass stampings. I

continued page 14

After making your lantern-slides, project them with a

Bausch & Lomb Balopticon

Model B, shown above, is the ideal instrument for use in the home, small club or classroom. Achromatic lens — simple, but scientific design—furnished with special baby arc lamp and rheostat, 100-watt Mazda lamp, acetylene or Welsbach gas-burner. Price, complete, only **$18.00** and **$22.00.** Can be furnished also with convenient accessories for **making lantern-slides,** or enlargements.

Write for special literature

Q and A continued

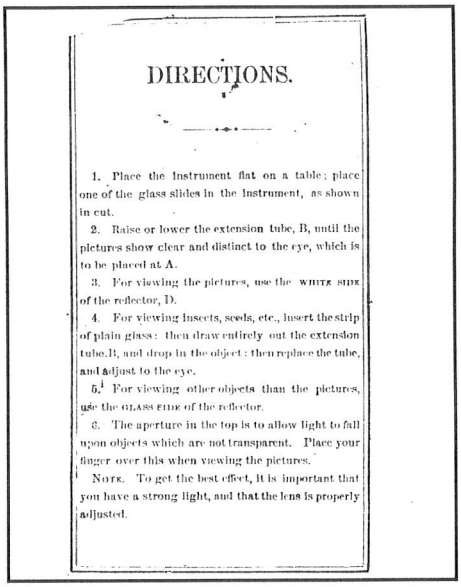
obtained the set about a year ago, and have never seen another.

I have also enclosed an interesting advertisement for a Balopticon Model B with interchangeable illuminants, which you might like to reprint in the *Gazette*. I actually have one of the projectors, with arc lamp and a lamp-house convertible from filament lamp to acetylene. Unfortunately, it is missing the condenser lenses in a removable curved-bottom black painted steel cell. Would you happen to know where I could find a cell—with or without the lenses? (Sadly, I had a junk projector with the right cell years ago, but disposed of it.)

If you do reprint the ad, I would be grateful if you could insert a little appeal for the cell for me.

Mr. Heard references a book entitled *Pepper's True History of the Ghost* reprinted by The Projection Box. How can this be obtained? Can anyone tell me if they have a copy and where/how they got it?

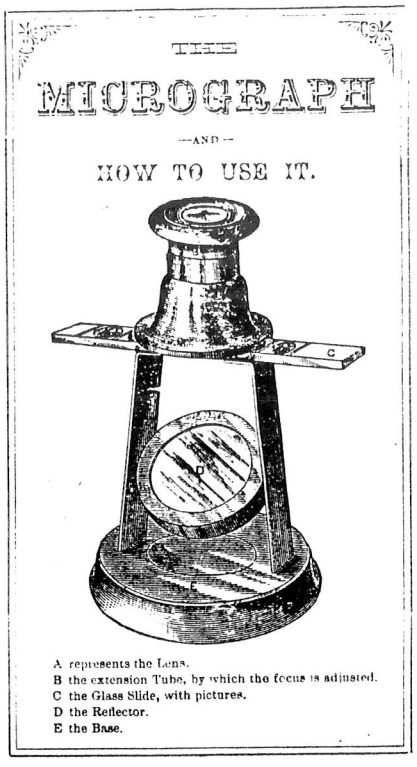
Best wishes, Lindsay Lambert
41 Bellwood Avenue
Ottawa, Ontario K1S 1S6
Canada • (613) 730-7797



DIRECTIONS.

1. Place the instrument flat on a table; place one of the glass slides in the instrument, as shown in cut.
2. Raise or lower the extension tube, B, until the pictures show clear and distinct to the eye, which is to be placed at A.
3. For viewing the pictures, use the WHITE SIDE of the reflector, D.
4. For viewing insects, seeds, etc., insert the strip of plain glass: then draw entirely out the extension tube, B, and drop in the object: then replace the tube, and adjust to the eye.
5. For viewing other objects than the pictures, use the GLASS SIDE of the reflector.
6. The aperture in the top is to allow light to fall upon objects which are not transparent. Place your finger over this when viewing the pictures.

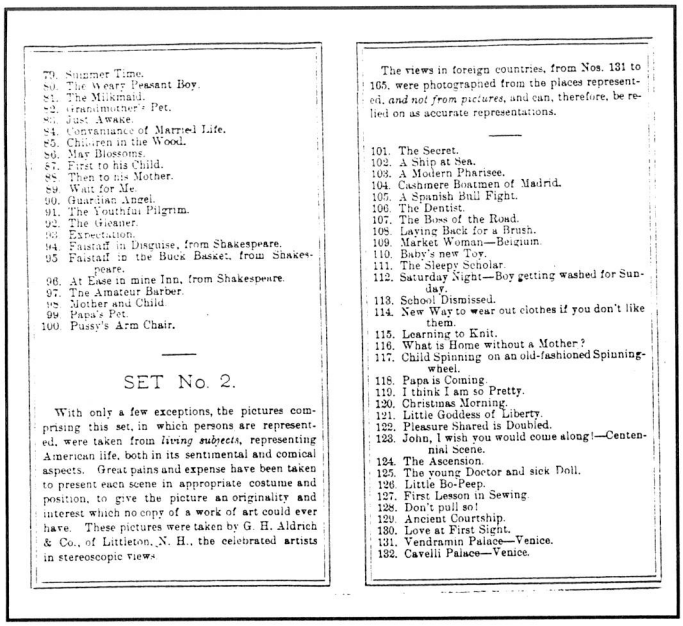
NOTE. To get the best effect, it is important that you have a strong light, and that the lens is properly adjusted.



THE
MICROGRAPH
—AND—
HOW TO USE IT.

A represents the Lens.
B the extension Tube, by which the focus is adjusted.
C the Glass Slide, with pictures.
D the Reflector.
E the Base.

THE
MICROGRAPH.
An Interesting Little Instrument, to both Old and Young.



70. Summer Time.
80. The Weary Peasant Boy.
81. The Milkmaid.
82. Grandmother's Pet.
83. Just Awake.
84. Convenance of Married Life.
85. Children in the Wood.
86. May Blossoms.
87. First to his Child.
88. Then to his Mother.
89. Wait for Me.
90. Guardian Angel.
91. The Youthful Pilgrim.
92. The Cleaner.
93. Expectation.
94. Falstaff in Disguise, from Shakespeare.
95. Falstaff in the Buck Basket, from Shakespeare.
96. At Ease in mine Inn, from Shakespeare.
97. The Amateur Barber.
98. Mother and Child.
99. Papa's Pet.
100. Pussy's Arm Chair.

SET No. 2.

With only a few exceptions, the pictures comprising this set, in which persons are represented, were taken from *living subjects*, representing American life, both in its sentimental and comical aspects. Great pains and expense have been taken to present each scene in appropriate costume and position, to give the picture an originality and interest which no copy of a work of art could ever have. These pictures were taken by G. H. Aldrich & Co., of Littleton, N. H., the celebrated artists in stereoscopic views.

The views in foreign countries, from Nos. 131 to 165, were photographed from the places represented, *and not from pictures*, and can, therefore, be relied on as accurate representations.

101. The Secret.
102. A Ship at Sea.
103. A Modern Pharisee.
104. Cashmere Boatmen of Madrid.
105. A Spanish Bull Fight.
106. The Dentist.
107. The Boss of the Road.
108. Laying Back for a Brush.
109. Market Woman—Belgium.
110. Baby's new Toy.
111. The Sleepy Scholar.
112. Saturday Night—Boy getting washed for Sunday.
113. School Dismissed.
114. New Way to wear out clothes if you don't like them.
115. Learning to Knit.
116. What is Home without a Mother?
117. Child Spinning on an old-fashioned Spinning-wheel.
118. Papa is Coming.
119. I think I am so Pretty.
120. Christmas Morning.
121. Little Goddess of Liberty.
122. Pleasure Shared is Doubled.
123. John, I wish you would come along!—Centennial Scene.
124. The Ascension.
125. The young Doctor and sick Doll.
126. Little Bo-Peep.
127. First Lesson in Sewing.
128. Don't pull so!
129. Ancient Courtship.
130. Love at First Sight.
131. Vendramin Palace—Venice.
132. Cavelli Palace—Venice.

Q How about this for a slide? Have never seen a two piece slide like this. I took it apart to clean and what a job to put it back together and make the box and head line up in the matte. How do you like the language? Can anyone give me more information on it?

Bob Skell
P.O. Box 7175
East Wenatchee, WA 98802

CLASSIFIEDS

Wanted

Views of Yosemite, logging, early pioneer life, wagon trains, etc. Contact Marvin Nauman 7220 40th St. NW, Gig Harbor, WA 98335. (253) 265-6800 day, (253) 265-6802 home (Pacific time).

Wanted

4" x 7" mechanical slides—all kinds. Any extras? Contact Rick Martyna, 401 Wyllis Street, Oil City, PA 16301-3049.

Wanted

Lantern slides for the Mantle Lamp Company Inc. of America. Otherwise known as "Alladin." The slides were for kerosene lamps, electric lamps, Alacite glassware and Velvex glassware. I will pay up to $50 depending on condition. Steve Lolley, P.O. Box 217, Meriden, Kansas 66512. (913) 484-2503.

For Sale

400 religious slides, mostly colored, some black and white. Call or write for more information. One dollar each or best offer. Ross McDaniel, 6334 Catalina Dr., Columbus, GA 31909. (702) 327-6429.

BUY, TRADE OR SELL.

Movie related glass lantern slides.
Contact: George Reed
7216 Kindred St.,
Philadelphia, PA 19149
tel. 215-725-3003 (10am - 3pm weekdays)

WANTED

Photographic slides of Glacier Park/Montanna. Great Northern Rail Road slides especially sought.
Scott Tanner
5518 148th Place S.W.
Edmonds, WA 98026
(206) 743-2958

A LOOK AT WHAT'S AVAILABLE ON THE INTERNET

http://www.magiclanterns.org/

Magic Lantern Castle Museum

earliest form of slide projector. The first published image of the device appeared in Ars Magna Lucis et Umbrae, by Athanasius Kircher in the late 1600's. Images were painted on glass and projected on walls, cloth drapes, and, sometimes, on a wet cloth from behind the "screen".

Naturally, to see images appear, either from a lantern, that heretofore was a light source only, or onto a screen, was "magical" in those early days.

With the advent of photography in the mid-1800's, it became possible to produce black-and-white images on glass in greater numbers. Still, they had, for the most part, to be hand-tinted or painted until reliable color photographic processes became available much later. Some slides were made by applying decals or transfers to the glass.

Until movies came along, in the mid-to-late 1890's, the magic lantern was the sole projection device available.

Though glass slides would indicate a still image, many innovations in magic lantern design and construction, as well as slide design (moving layers of glass images), allowed dissolving images, movement, and special effects.

Thus, the magic lantern became "the Father of motion pictures, and the Grandfather of television."

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Magic Lantern Castle Museum

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Magic Lantern Castle Museum continued

Institutional information

Address: 1419 Austin Hwy., San Antonio, TX 78209
Main telephone number: (210) 805-0011
Fax number: (210) 822-1226
Web Site: www.magiclanterns.org
E-Mail: mlcmjjud@magiclanterns.org
Type of institution and governance: Privately owned and funded

Museum hours: **By request or invitation.**
Contact person: Jack Judson, Director, CEO, Curator, (210) 805-0011

Institutional history
The Magic Lantern Castle Museum was opened/completed in spring 1992.

Facility report [square footage of exhibition and program areas; accessibility for people withdisabilities]

5,000 square feet - exhibit building; 2,500 square feet - library/office building; 4,000+ square feet exhibition area; 50-person auditorium lecture hall/performance area; wheelchair-accessible.

Artifact/specimen/fine or decorative arts collections [size end scoped

The Magic Lantern Castle Museum contains exhibits of many hundreds of items of equipment, glass slides, illustrations, prints, and other items that relate to the history of the magic lantern (lantern slide projector) and scientific optic projection apparatus from the 1700s to 1900s. In addition, there are many hundreds of similar items in storage.

To the author's knowledge, this is the only museum in the world that is solely dedicated to this subject. Collection items have been used worldwide and span approximately 250 years. It is the only extensive resource available on this subject. Sub-collections include early radios, quack medical devices, and other techno-related items.

Research/archival collections [size and scope; availability for research]

There is a fairly extensive library of original catalogues, books, prints, illustrations, etc. from the 19th century, plus extensive files of information on the subject of magic lantern equipment and usage from the 1600s to present.

All materials in the museum are available for research for serious researchers with reasonable advance notice.

Library/visual resources [size and scope; circulation policy; appointment policy; access; reproduction issues; fees]

Open to scholars; numerous 19th- and 20th-century books, catalogues, papers, publications, patent references in the hundreds; does not circulate print materials; appointment necessary.

Visual reference collection: slides, black and white prints. Numerous items are being catalogued in computers, via scanner and then catalogued in CDs. 40-50% of permanent collection documented HDWE, 5% images.

Contact Director about rights and reproduction; duplication fees are cost of copies and transport; must credit museum when using image.

Exhibitions [description; availability for touring; supplemental materials; contact]

Museum does present exhibitions; not currently available for tour; supplemental materials limited to cooperative effort with exhibit sponsors.

Computer capabilities [486 computer; Internet or other service; cataloguing of collections/visual images on computer]

486 computer; modem; collection items are catalogued onto computer.

Loan policies [protocol; fees; restrictions; facility reports]

Written request to director with detail of request basis, etc; six months minimum lead time; borrower pays insurance cost, transport

Other Internet address

http://www.grand-illusions.com/index.htm

http://www.the-forum.com